present comparatively few in number and in many cases their preparation is insufficient, but these disadvantages are being removed. The principal conditions of the contract which the university enters into with its professors provide for a three-year term of service. The salary is paid in silver at the rate of 300 Hongping taels per lunar month (the Hongping tael varies in value according to the rate of exchange, usually 60 cents to 65 cents; there are twelve and one third lunar months in the year). Free medical attendance is provided as well as suitable living quarters; these latter are substantial brick houses, provided with electric light and water. The traveling expenses of the professors to China and return are paid in the event of his completing his contract. The conditions of life in China are so different that it is impossible to convey an accurate idea of them in words. In general it may be said that any one who objects to unfamiliar and, in some respects, crude conditions of life and work would probably not enjoy the life in China, while others will find much of interest and pleasure in it. The cost of living is low, for $1,500 per year a small family can live in much greater comfort than upon the same sum in America. It will be necessary for the applicant to sail from San Francisco during the first week in July, in order to begin work with the autumn term. More detailed information upon any points in doubt can be obtained by writing to Thos. T. Read, 420 Market Street, San Francisco, but any applicant should immediately send a letter containing the facts (1), (2), (3) to President Wang, stating, if necessary, that he is only tentatively a candidate, until fuller information is available. It must be remembered that the time available will not allow for many exchanges of letters and the final appointing will probably be done by cable. A copy of the application should be sent to Mr. Read.

SCIENTIFIC NOTES AND NEWS

IT was proposed on behalf of the Royal Society and the Royal College of Surgeons that Lord Lister should be buried in Westminster Abbey, and the consent of the dean was obtained. Lord Lister, however, had expressed a wish to be buried in Hampstead Churchyard, where the body of his wife lies. The first part of the funeral service was held in Westminster Abbey on February 16. Only members of the family were present at the interment in Hampstead Churchyard.

AT the University of Pennsylvania exercises on Washington's birthday several honorary degrees were conferred, including the doctorate of laws on Dr. William J. Mayo, the surgeon; the doctorate of science on Carl Hering, the electrical engineer, and the doctorate of public hygiene on Dr. A. C. Abbott, professor in the university.

AT the stated meeting of the committee on science and the arts of the Franklin Institute held on February 7 Elliott Cresson Medals were awarded as follows: Alexander Graham Bell, Sc.D., Ph.D., LL.D., of Washington, D. C., in recognition of the value of his solution of the problem of the electrical transmission of articulate speech. Samuel Wesley Stratton, D.Eng., Sc.D., of Washington, D.C., in recognition of his distinguished and directive work in physical science and metrology, and its application in the arts and industries. Albert A. Michelson, Sc.D., Ph.D., LL.D., of Chicago, Ill., in recognition of his original and fruitful investigations in the field of physical optics. Alfred Noble, C.E., LL.D., of New York, in recognition of his distinguished achievements in the field of civil engineering. Elihu Thomson, Sc.D., Ph.D., of Swampscott, Mass., in recognition of his leading and distinguished work in the industrial applications of electricity. Edward Williams Morley, Sc.D., Ph.D., LL.D., of West Hartford, Conn., in recognition of his important contributions to chemical science and particularly of his accurate determinations of fundamental magnitudes. Johann Friedrich Adolph von Baeyer, Ph.D., F.M.R.S., of Munich, Germany, in recognition of the many important results of his extended research in organic chemistry and of his discovery of synthetic processes of great industrial value.

Sir William Crookes, D.Sc., LL.D., F.R.S., O.M., of London, England, in recognition of his important discoveries in inorganic and analytical chemistry and of his pioneer work on the discharge of electricity through gases. Sir Henry Enfield Roscoe, Ph.D., LL.D., D.C.L., F.R.S., of London, England, in recognition of his extended and important researches in the domains of inorganic, physical and industrial chemistry.

SINCE Henry Shaw's death, in 1889, over $400,000 has been paid in special street and sewer taxes and the like, for improvement of unproductive endowment property—two thirds as much has been spent in keeping up the grounds and plant houses and increasing the collection of plants at Shaw's Garden. This burden is now nearly lifted and income from the newly improved property as well as the full return from that which has always been productive is to become rapidly available for very large extensions and increased beautification of the garden. Carrying out the proposed improvements is expected so fully to occupy the time of the director that the trustees and Dr. Trelease, who has acted *ex officio* as a trustee for the last three years, are agreed that this development should be undertaken by a man who is free to give his entire effort to it, while the scientific work that Dr. Trelease has under way or in contemplation is sufficient to call for further freedom of his time from administrative encroachment. For these reasons Dr. Trelease, who has been director of the Missouri Botanical Garden since the death of its founder, in 1889, has asked to be relieved from the responsibilities of the office at the earliest convenience of the trustees, and intends, after this request has been granted, to give his entire time for the present to the completion and publication of a number of research papers on which he is now working, and which will involve study in the herbaria as well as at the St. Louis garden.

DR. GEORGE H. ASHLEY, state geologist of Tennessee, will resign to accept a position with the U. S. Geological Survey as a member of the land classification board in charge of the coal work.

PROFESSOR MARSTON TAYLOR BOGERT, of Columbia University, has been appointed chairman of the American Commission on Organic Nomenclature, the other members of which are President Ira Remsen, of Johns Hopkins University; Professors W. A. Noyes, of the University of Illinois; T. B. Johnson, of Yale University; J. B. Tingle, of McMaster University; J. F. Norris, of Simmons College; M. Gomberg, of the University of Michigan, and Dr. C. S. Hudson, of the Bureau of Chemistry, U. S. Department of Agriculture. The commission will cooperate with similar national bodies in other countries in the revision of the nomenclature of organic compounds. The chairman will be glad to receive suggestions from American organic chemists.

PROFESSOR P. G. HOLDEN, head of the department of agricultural extension of Iowa State College, has resigned his position to engage in an active campaign for nomination for the governorship of Iowa on the Republican ticket. R. K. Bliss has been made acting head of the department.

DR. H. VON GROTH, professor of mineralogy at Munich, has been elected an honorary member of the London Chemical Society.

DR. F. W. DYSON, F.R.S., has been elected president of the Royal Astronomical Society.

PROFESSOR P. ANDOYER has been elected president of the French Mathematical Society.

PROFESSOR JOHN JOLY, F.R.S., has been appointed Huxley lecturer at Birmingham University for the current session.

DR. J. M. MCBRYDE, former president of the University of South Carolina, later president of the Virginia Polytechnic Institute, and now on the Carnegie Foundation, was awarded the McMaster medal by the University of South Carolina at the celebration of Founder's Day on January 12, 1912. The McMaster medal is awarded annually by the University of South Carolina to an alumnus or former student of the university for "distinguished service to mankind."

PROFESSOR RENÉ ZEILLER, the eminent paleobotanist of the Paris School of Mines and inspector general of mines, has been appointed president of the council general of mines, a public board under the Ministry of Public Works.

DR. W. WILIM, of the St. Petersburg Academy of Science, has been appointed director of the newly-established seismographic observatory at Pulkova.

MR. GEORGE H. CLAPPS has been appointed to represent the Academy of Natural Sciences of Philadelphia on the occasion of the celebration of the one hundredth and twenty-fifth anniversary of the founding of the University of Pittsburgh. The council of the Société Géologique de France has appointed one of the foreign members of the society, Dr. C. R. Eastman, of the Carnegie Museum, to act as official representative of that body at the celebration.

A SMITHSONIAN expedition, under the direction of Mr. H. C. Raven, will start in a few days for eastern Dutch Borneo, where a collection of vertebrates and ethnological material will be made for the United States National Museum.

MR. WALDEMAR T. SCHALLER, chemist and mineralogist of the United States Geological Survey, is soon to leave Washington for a six-months' trip to Europe where he will visit the principal mineral collections and continue his studies at the universities of Heidelberg and Munich.

DR. WARREN D. SMITH, chief of the division of mines, Bureau of Science, Manila, will be on leave in the spring and summer of 1912 in the United States, making visits to the various laboratories in Washington and Pittsburgh. Later he will spend a month in one of the California oil fields investigating the geology and operations there.

PROFESSOR GEORGE D. HUBBARD, head of the department of geology in Oberlin College, is engaged in special research under the Ohio State Geological Survey, in the attempt to formulate some definite conclusions regarding the problems of pre-glacial drainage in the Ohio Valley.

PROFESSOR WILHELM PASZKOWSKI, the director of the Scientific Information Bureau of the University of Berlin, will leave for the United States on March 9, to deliver a series of lectures on German culture on the invitation of the Germanic Society of New York. He is to lecture at Columbia, Harvard, Yale and other universities.

PROFESSOR CASPER RENÉ GREGORY, of the University of Leipzig, is giving a series of lectures at the University of Illinois on "The Development of Science in Germany." Dr. Gregory is the first American-born professor to receive appointment in a German university. He holds the chair of theology at Leipzig.

DR. HAVEN METCALF, of the U. S. Department of Agriculture, delivered on February 17 the John Lewis Russell lecture before the Massachusetts Horticultural Society. His subject was "Fungous Diseases of the Chestnut and Other Trees."

LECTURES have been given before the graduate students in highway engineering at Columbia University by Mr. Clifford Richardson, consulting engineer, New York City, on "Trinidad and Bermudez Asphalts and Their Use in Highway Construction"; by Mr. Nelson P. Lewis, chief engineer, Board of Estimate and Apportionment, New York City, on "Design of Highways and Systems of Highways," and by Mr. A. W. Dow, chemical and consulting paving engineer, New York City, on "The Inspection of Sheet Asphalt Pavements."

PROFESSOR ARTHUR KEITH, curator of the museum, began on February 26 a course of six lectures at the Royal College of Surgeons of England, on phases in the evolution of man.

ON February 24 Sir J. J. Thomson began a course of six lectures at the Royal Institution on "Molecular Physics."

CHARLES ROBERT SANGER, Ph.D., professor of chemistry and director of the chemical laboratory at Harvard University, died on February 25, at the age of fifty-two years.

The Rev. Francis Bashforth, distinguished by his experiments in ballistics, formerly professor of applied mathematics at Woolwich, died on February 12, at ninety-three years of age.

M. Jacob Amsler, corresponding member of the Paris Academy of Sciences in the section of mechanics, has died at the age of eighty-nine years.

The New York State Civil Service Commission announces among other examinations that of medical superintendent at the Matteawan State Hospital for the Insane at a salary of $3,000, with maintenance for the superintendent and his family, and of specialist in agricultural education at a salary of $2,500.

The Kaiser Wilhelm Foundation for the Advancement of Science has under consideration the establishment of a biological research institution.

Mr. W. Leo Buller has presented to the Dominion Museum, Wellington, New Zealand, a collection of about 700 Maori ethnological specimens which had been collected by his father, Sir Walter Buller.

According to a note in *Nature* the possibility of the discovery of a remedy for cancer has been advanced a stage by the preparation of Professor Wassermann, of Berlin, of a substance which possesses a curative action experimentally on cancer of mice. Professor Wassermann reasoned that since the cancer-cells are growing rapidly, their oxygen requirements would be different from, and greater than, those of the cells of the body generally. He sought for some substance which might interfere with the oxygen supply to the cancer-cells, and finally adopted selenium as a means to do this. The next problem was to convey selenium to the cancer-cells by means of the blood stream, and after testing some hundreds of preparations a compound of selenium with an aniline dye eosin was found to fulfil this condition. If the eosin-selenium compound is injected into a healthy mouse it becomes pink all over, but if into a mouse with a cancerous tumor the tumor only becomes colored, demonstrating the selective absorption of the substance. After two or three injections of the substance into a mouse the subject of cancerous tumors, the tumors are found to have softened, and after six to eight doses they become cystic, diminish in size and finally disappear, and no recurrence takes place. The eosin-selenium compound is, however, poisonous, and a certain number of mice succumb under the treatment. Moreover, only small tumors (up to the size of a cherry) are definitely cured; with larger tumors so much disturbance ensues that the animals die.

The U. S. Bureau of Education has recently issued Bulletins Numbers 13 and 16 for 1911, the former containing the Report of the American Committees I. and II., on Mathematics in the Elementary Schools of the United States, and the latter containing the Report of the American Committees III. and IV., on Mathematics in the Public and Private Secondary Schools. These reports are prepared under the direction of the American commissioners of the International Commission on the Teaching of Mathematics. They may be secured by addressing the U. S. Commissioner of Education at Washington.

In commemoration of the seventieth birthday of Professor J. J. Rein, January 27, 1905, the friends of this well-known German geographer instituted a fund, the yearly income of which should be devoted to the furtherance of geographical research. We learn from the *Geographical Journal* that the contributions made then and since to the fund reached, in November last, a total of nearly 9,000 marks, and in the same month the rules for the administration of the fund were drawn up. It is proposed, unless reason to the contrary should arise, to wait until the fund has accumulated to 10,000 marks before making a grant of the interest, which alone is to be expended, the capital remaining intact. Grants will be made with a view to giving young geographers the opportunity of travel and research, and the recipients must be Germans or Japanese, while preference will be given to students in the University of Bonn and in the Commercial College at Cologne. The fund will be admin-

istered by a small committee, on which Professor Rein will serve during his lifetime.

Nature states that the council of the Royal Sanitary Institute offers the Henry Saxon Snell prize for competition this year. The prize was founded to encourage improvements in the construction or adaptation of sanitary appliances, and is to be awarded by the council at intervals of three years, the funds being provided by the legacy left by the late Henry Saxon Snell. The prize will consist of fifty guineas and the silver medal of the institute, and is offered for an essay on "Suggestions for Improvements in the Ventilating, Lighting, Heating and Water Supply Appliances and Fittings for an Operating Room and its Accessory Rooms for a General Hospital of 400 Beds."

THE conference of representatives of forty-two states which was convened last November under the auspices of the International Office of Public Hygiene, and which has been sitting in Paris under the presidency of M. Camille Barrère, the French ambassador in Rome, has now signed a convention making regulations for the prevention of pestilential diseases, especially plague, cholera and yellow fever. This agreement supplements the earlier Paris convention of 1903 in accordance with the latest scientific requirements.

THE annual meeting of the Illinois Society of Engineers and Surveyors for 1912 was held at the University of Illinois on January 17, 18 and 19. The more important engineering topics discussed were stream pollution, sewage disposal, accuracy in surveying, road and pavement problems and the bridge work of the Illinois highway commission. Two illustrated lectures were given, one by Professor I. O. Baker on the Panama Canal, and one by Mr. H. L. Cooper, chief engineer, on the Keokuk Water Power Plant. An afternoon was spent in inspecting the buildings and discussing the work of the College of Engineering.

THE Physical Science Club of Oberlin College is an organization composed of instructors and students in the departments of chemistry and physics, with affiliated members drawn from the departments of botany and zoology and mathematics. The most recent open meeting of the club was devoted to a lecture by Professor A. W. Menzies, of the University of Chicago, who spoke on "The Uses of Quartz in Physical and Chemical Apparatus." Recent regular meetings of the club have been devoted to talks and illustrated lectures by E. J. Moore, associate professor of physics, who has been for two years working in the laboratories of the University of Chicago under Professor Millikan. Dr. S. R. Williams, head of the department of physics, has read a series of papers on "A Model of the Elementary Magnet," while Professor G. D. Hubbard, head of the department of geology, has brought to the meetings the results of his work under the State Geological Survey, on the investigation of preglacial conditions and present topography in the Ohio Valley.

IN connection with the Centenary Celebration of the Academy of Natural Sciences of Philadelphia, the following invitation has been mailed to correspondents.

The Academy of Natural Sciences of Philadelphia, founded in the year eighteen hundred and twelve for the cultivation of the natural sciences, in March nineteen hundred and twelve will have completed one hundred years of active devotion to this purpose.

For the adequate celebration of its centenary anniversary the Academy will call in convention at its Hall the learned men and institutions of the world—its collaborators.

The Academy has the honor to invite . . . . . to be present at this event which will take place at Philadelphia on Tuesday, Wednesday and Thursday, the nineteenth, twentieth and twenty-first of March nineteen hundred and twelve.

UNIVERSITY AND EDUCATIONAL NEWS

THE council of Bedford College has announced that the £100,000 required to erect the new buildings at Regent's Park and to inaugurate an endowment fund has now been obtained. Of this amount the London County Council has contributed £30,000.

PROFESSOR HENRY WILLIAMSON HAYNES has bequeathed to the Peabody Museum of Har-